U.S. Army Safety Center

Enhancing Combat Readiness through RISK MANAGEMENT

COLONEL CHRISTOPHER G. GALLAVAN

DIRECTOR, POLICY AND STRATEGIC PROGRAMS

US ARMY SAFETY CENTER

WWII to Now Accidents versus Combat

Combat Losses / Accidents

WWII 43% / 56%

Korea 55% / 44%

Vietnam 45% / 54%

DS /DS 20% / 75%

Enduring Freedom 48% / 51%

Iraqi Freedom 63% / 36%

BATTLE3-02

Army Global Commitments

324,200 soldiers over-seas in 120 countries (approx. 215,000 on unaccompanied tours)

- 24 of 33 (73%) AC BCTs deployed overseas in FY03
- 15 of 45 (33%) eSB battalions deployed overseas in FY03

Army Personnel Strength

Component	Currently Deployed
- Active:	485,000 214,427
- Reserve:	205,000 51,405

FY03
259
Army Military
Fatalities
$521+ Million*
* Captured Costs
VCSA3-01
As of 20 Oct 03

The Challenge

"Reduce the number of mishaps and accident rates by at least 50% in the next two years."

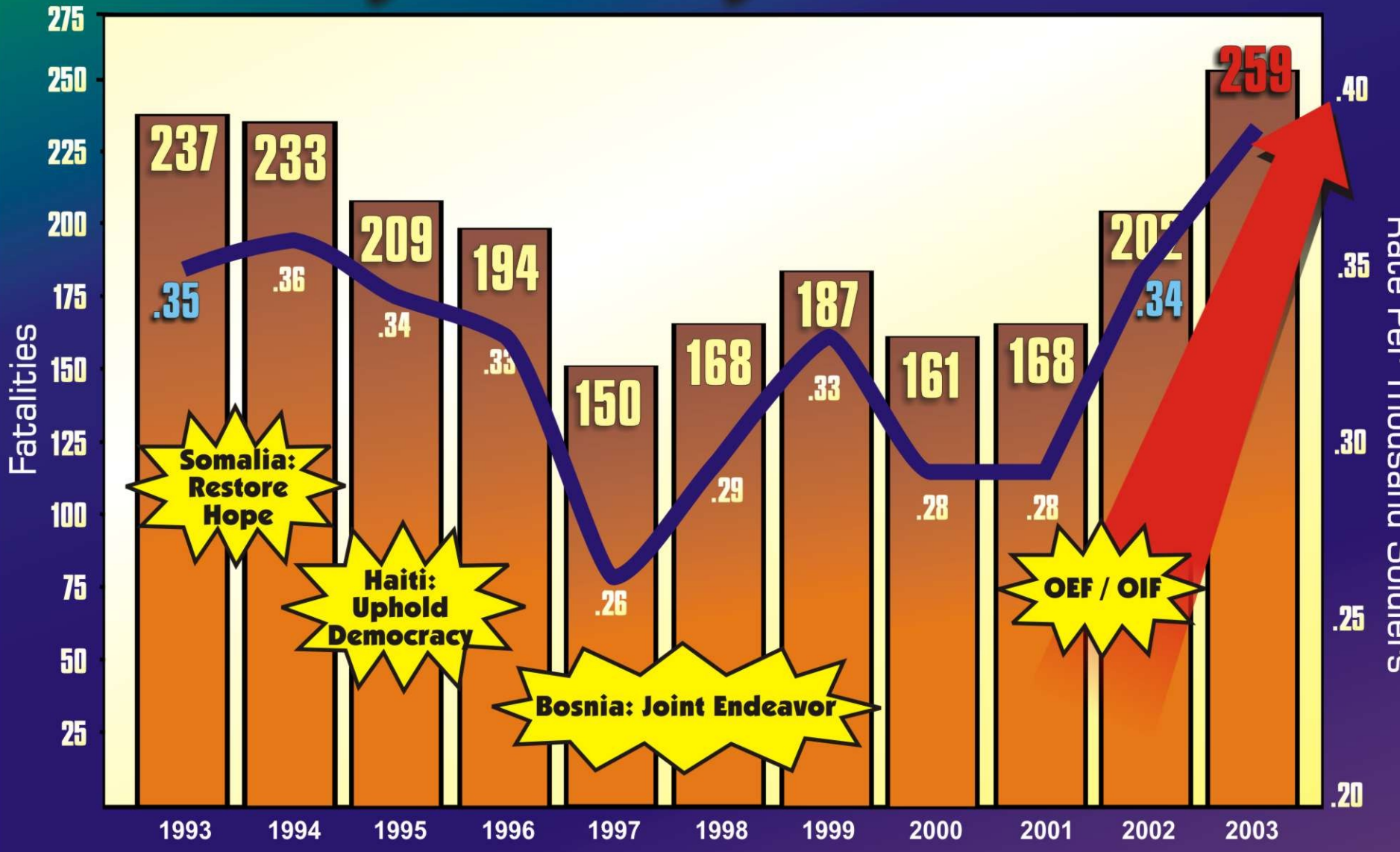
Secretary of Defense

What does this mean to you?

It's on OUR watch!

CG3-66B

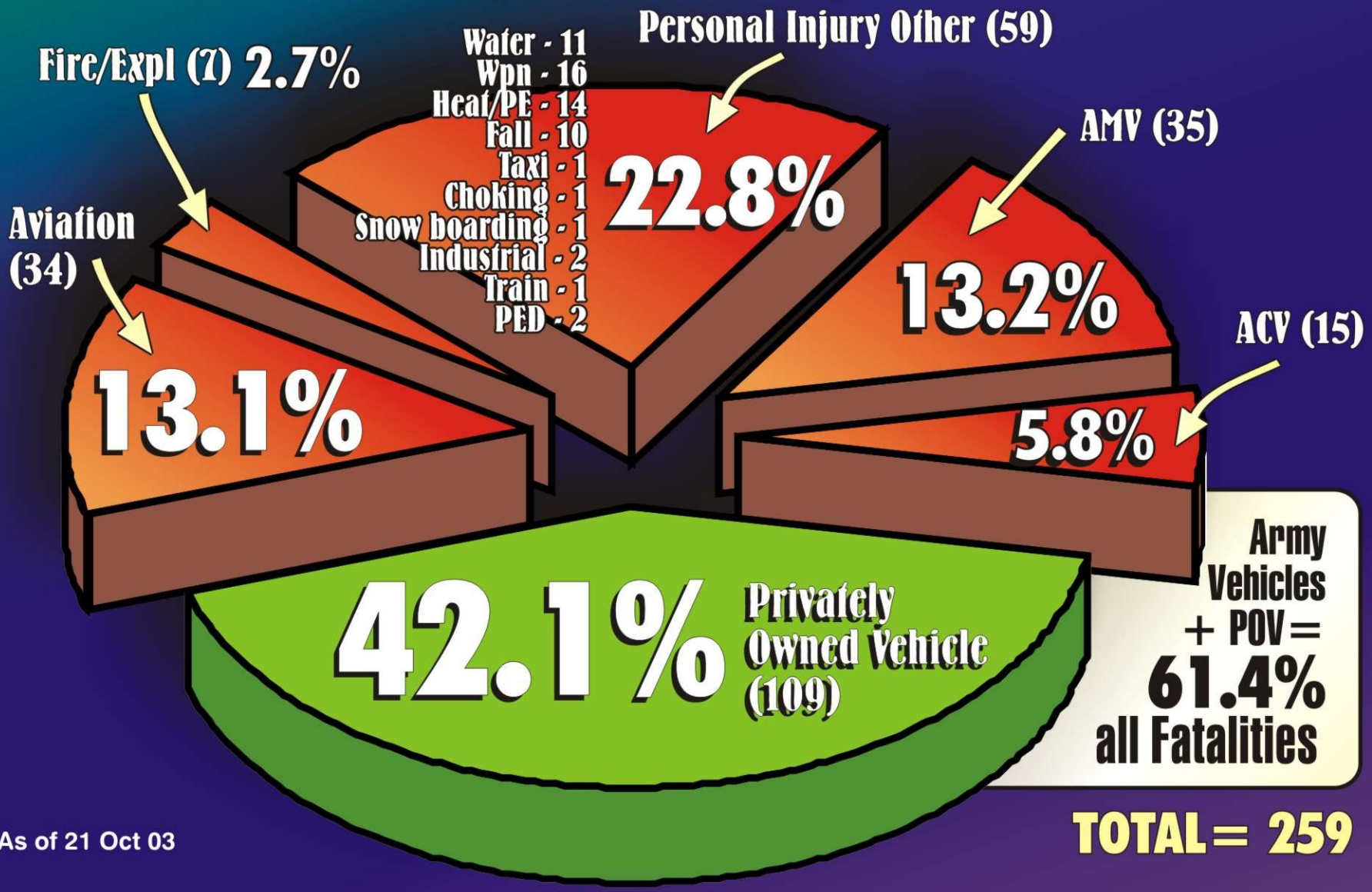
Army Military Fatalities



IPR3-474

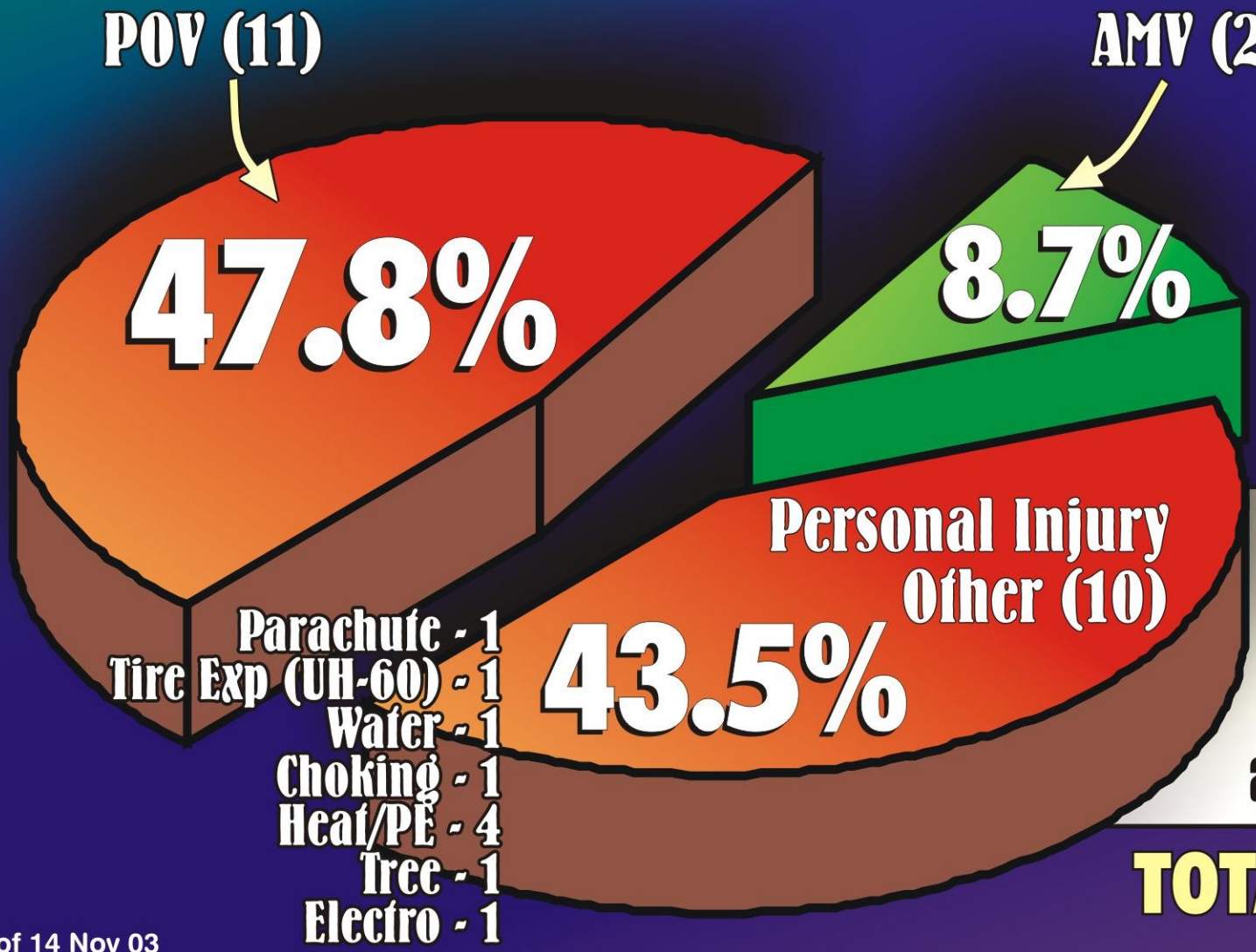
As of 5 Nov 03

FY03 Army Military Fatalities



As of 21 Oct 03

YTD FY04 Army Military Fatalities



Army Vehicles + POV = **56.5%** all Fatalities

TOTAL = 23

As of 14 Nov 03

U.S. Army Safety Program

Safety is a *Commander's* Program

Enhance combat readiness through proactive Risk Management

TRS3-08

CG3-73

Trends

Aviation

1. Environment ...Brownout
2. Aircrew Coordination
3. Overloading IPs

Ground

1. Rollover
2. Speed
3. Failure to Follow Procedures
   - **Small Convoys**
   - **Seatbelts**
   - **Negligent Discharges**

POV

1. Fatigue
2. Speed
3. Failure to Follow Procedures
   - **Alcohol**
   - **Seatbelts**

Army Safety

Performance

Aviation

PCC2-06

FY03 Class A Aviation Trends

Events *

Brown/white out..... 11 (39.3%)
Collision w/Ground..... 5 (17.9%)
Tree/Wire Strike..... 3 (10.7%)
Material failure..... 4 (14.3%)
IIMC..... 2 (7.1%)
Mesh Rotor Blades..... 1 (3.6%)
Mid Air Collision..... 1 (3.6%)
Collision w/Grnd object..... 1 (3.6%)

Causes */**

Individual failure..... 20 (90.9%)
- Crew coordination..... 12 (54.5%)
- Overconfidence..... 12 (54.5%)
- Indiscipline..... 4 (18.2%)

Environment..... 13 (59.1%)
Support failure..... 4 (18.2%)
Leader failure..... 8 (36.4%)
Training failure..... 4 (18.2%)
Risk Management..... 2 (9.1%)
Standards..... 3 (13.6%
Unknown..... 1 (4.5%)

Profile */**

Night..... 56.0%
IP..... 39.1%
Single ship..... 43.5%

IP (total/type)..... 2814/1466
PC (total/type)..... 1457/900
PI (total/type)..... 715/338

Type (YTD)

(ClassA/Fatal)	FY03	FY02
AH-64	9/3	8/4
MH/CH-47	5/0	5/8
OH-58D	3/0	5/2
MH/UH-60	11/28	5/2
Fixed-wing	1/2	1/1

As of 21 Oct 03

* Three Accidents still under investigation ** Non-material failures

FY03 Class A Aviation Trends OIF AOR

Events **

Brownout..... 9 (75%)

Collision w/Ground..... 1 (8.3%)
Wire Strike.....1 (8.3%)
Material Failure..... 1 (8.3%)

Causes *

Individual failure..... 8 (88.9%)
- Crew coordination.....6 (66.7%)
- Overconfidence.....3 (33.3%)

Environment..... 8 (88.9%)

Support failure..... 2 (22.2%)
Leader failure.....4 (44.4%)
Training failure..... 3 (33.3%)
Standards..... 2 (22.2%)
Risk Management..... 1 (11.1%)

Profile *

Night.....58.3%
IP..... 25%
Single ship..... 41.7%

IP (total/type).....1271/unknown
PC (total/type).....1166/993
PI (total/type).....602/431

Type

(ClassA/Fatal)

AH-64..... 5/0
MH/CH-47.....1/0
OH-58D.....2/0
MH/UH-60..... 5/8

* Three accidents still under investigation/Non-material failures

As of 21 Oct 03

Aviation Recommendations

- ***Environmental*** — **Train to standard prior to conducting operations in new environmental conditions**
  - **Brownout — Train to standard**
  - **Deteriorating Weather —**
    - Crew reluctance to transition to IFR
    - Crew willingness to fly in marginal weather
- ***Flight Profile*** — **Ensure approval authority for single ship missions is at the appropriate level**
- ***Crew Coordination*** — **Commanders review current crew coordination program & ensure refresher training as required. Accelerate fielding of Crew Coordination Sustainment Program**

Risk Management "3 Deep"

Sergeant's Time Training

Requires Multi-Level Leader Involvement

Company Battle Drill

Integration of Risk Management into the Training Planning Process

Army Safety *Performance*

Ground & POV

(Army Motor Vehicles/Army Combat Vehicles/ POVs/Negligent Discharges/Personal Injury)

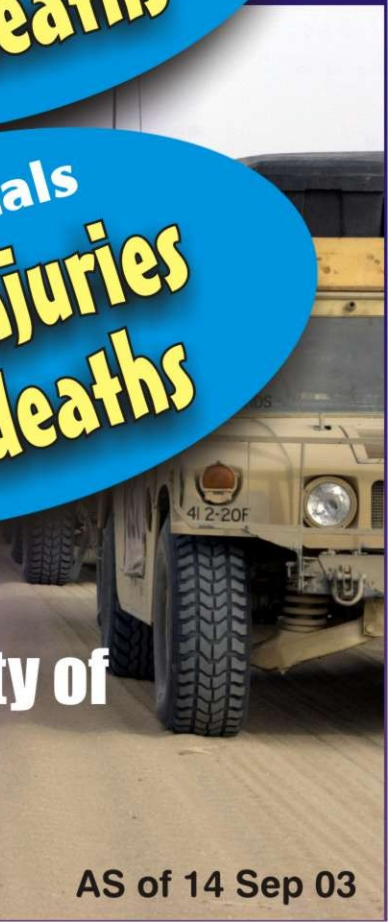
Army Motor Vehicle Accident Trends

Most accidents occurred in convoys in forward areas

Army Totals
- 173 injuries
- 31 deaths

OIF Totals
- 42 injuries
- 26 deaths

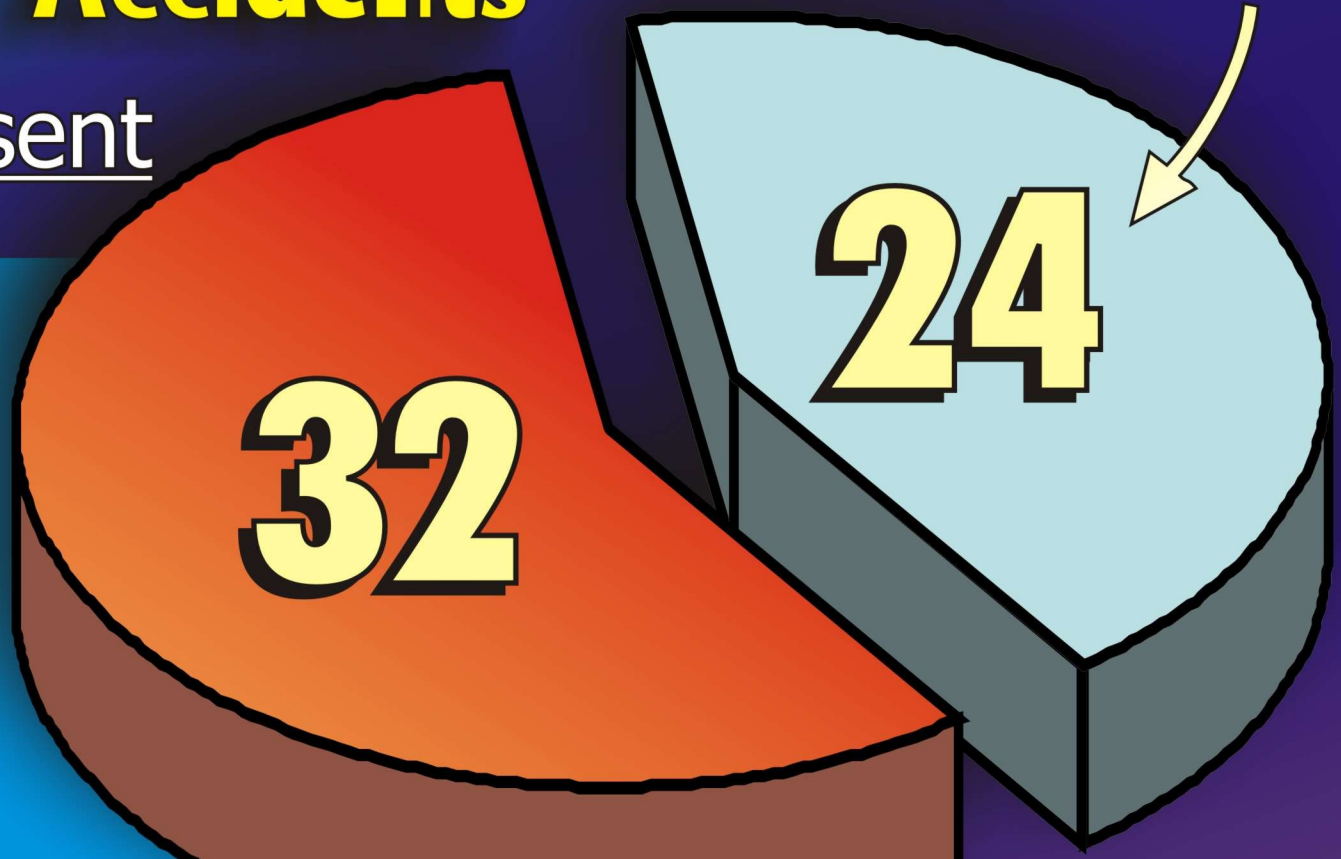
- Speed was a factor in over 50% of the accidents studies
- Environment played a role in almost 50% of the accidents
  - Dust
  - Civilian vehicles
  - Obstacles
- Failure to use seat belts contributed to severity of injuries in almost 50% of HMMWV accidents



AS of 14 Sep 03

Total Army Motor Vehicle Class A Accidents vs Class A Rollover Accidents

FY02-Present



42.9% of all AMV Class A Accidents were Rollovers

Drivers Training?

IPR3-477B

Vehicle Recommendations

- **Convoy Management Plan**
  - Formal MSR hazard assessments
  - Establish & resource key control nodes along routes
- **Enforcement of Standards**
  - Speed
  - Seatbelts
  - Convoy discipline (Distance vs Speed: must be adjusted based on environmental conditions)
- **Enforcement of Convoy Briefings**
  - Must include RM at ALL levels
  - * Careful attention to small convoys

IPR1-227

Negligent Discharges in Operation Iraqi Freedom

- 10% of accidental fatalities during pre-hostilities phase
- 17.6% of accidental fatalities during hostilities phase
- 15.8% of accidental fatalities during post-hostilities phase

Negligent Discharge Scenarios

- SM on guard duty/QRF was playing around with loaded M203. Round discharged and landed near PX connex. No injuries.
- SM slammed feed tray cover and accidentally discharged 4-5 rounds from M249 SAW inside CH-47 during air assault. No injuries.
- M60D jammed in flight. Crew chief removed weapon from mount in attempt to clear the weapon, a round discharged through floor of UH-60 causing $39,500 in damage to aircraft. No injuries.
- SSG discharged M16 through roof of open sleeping bay. Unit had just returned from live fire training in Kabal. Weapon belonged to squad member and SSG thought weapon was unloaded.
- SPC on guard duty discharged 9mm while playing with weapon on guard duty. No injuries. Minor damage to guard shack. ROE only called for magazine in weapon with no round in chamber.

Negligent Discharge Scenarios

- After cleaning weapon, SM performed function check on his M16 with butt of weapon on floor. Round discharged. SM fatally injured when round went through chin.
- MP discharged 3 rounds from M249 SAW while installing night vision sight. No injuries.
- SM retrieved what he thought was his unloaded 9mm from bag in tent. Weapon discharged severely injuring fellow soldier in abdomen.
- SM failed to properly clear weapon at clearing barrel discharging round.
- SM was performing function check after cleaning weapon. Round discharged into tent floor. No injuries.
- SGT was conducting class on how to perform function check on M4. He failed to remove magazine. Round discharged injuring his toe.

Negligent Discharge Scenarios

- SM was cleaning his M4 and failed to remove magazine. During function check, round discharged through wooden wall and lodged in box of paper.
- SM was on patrol in secure area. 9mm discharged in holster injuring knee.
- SM was pulling guard duty and discharged his weapon. Injury to calf.
- SM had negligent discharge of M249 SAW while pulling security during vehicle halt. No injuries.
- SM accidentally discharged 12 gauge shotgun in USAF C-130 causing slight shrapnel injury to USAF crewmember.
- SPC was loading M249 SAW and discharged 4-5 rounds.
  Four rounds struck NTV and 5th round hit SFC in knee.
- PFC negligently discharged 3 rounds from M16 in logistics support area.
  No injuries.

Negligent Discharge Scenarios

- SM had negligent discharge of M249 SAW causing gun shot wounds to three fellow soldiers.
- Unit armorer opened breach of M203 and noticed 40mm grenade round in chamber. Round fired when he closed breach. Explosion from grenade severely injured SM in assembly area from shrapnel to chest.
- 25mm round fired when TC entered BFV and turned on master power switch. One fatality and one injury.
- SSG was twirling his 9mm cowboy style. Round discharged and struck SM in knee.
- SPC was cleaning 9mm pistol in unit assembly area. Weapon discharged and struck SM in head. One fatality.
- SGT accidentally fired M4. Round grazed nearby SM in head. Minor injury.

Negligent Discharge Scenarios

- PFC attempted to clear M4 in back of BFV. Weapon discharged in fellow SM's foot.
- Before performing PMCS on BFV, crew attempted to clear 25mm gun. They cycled gun thinking it was clear. Round discharged in harmless area.
- SGM had negligent discharge of 9mm at clearing barrel. Failed to remove magazine.
- While on guard duty, SM was handed weapon from another soldier. Weapon was on semi and discharged round in soldier's foot.
- W01 from protective services detachment had negligent discharge of MP5K 9mm submachine gun. Minor injury.
- MP was escorting EPW to holding facility and accidentally discharge weapon in his foot. No injury to EPW.

Within 3 minutes 6 tents were burned to the ground

Contributing Factors

- ☑ Unauthorized electrical modification
- ☑ Halogen lights too close to canvas
- ☑ Overloaded electrical outlets
- ☑ Open flames in tents
- ☑ Unauthorized smoking in or around tents
- ☑ No Fire Fighting Plan

FtDRUM3-04

POV Accidents

Where are We at risk?

- **Causal Factors**
  - Speed
  - Fatigue
  - Seatbelt/Helmet Not Used (Increases injury severity)
- **Profile**
  - 19-24 Male
- **Leadership Failure**
  - NCO involvement
    - Share knowledge & experience
  - Enforce the standard
  - Parking lot spot checks
  - Use the Provost Marshal
  - Failure to reward good performance

BUCKLE UP - NO EXCEPTIONS - NO EXCUSES!

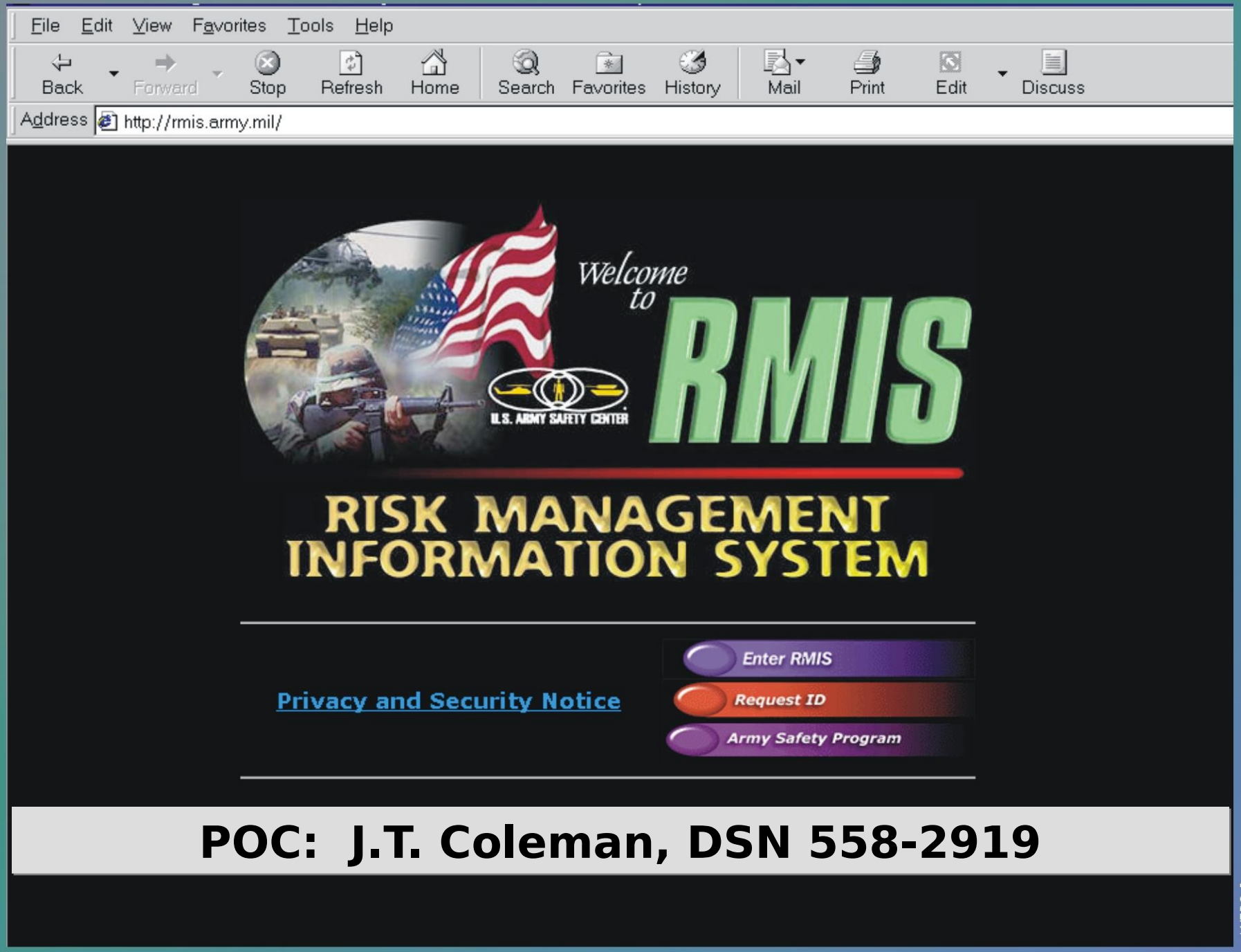
CG1-03D

Initiatives Coming Your Way

- **Ground Assessment Team**
  - Initial Focus-Driver Training
- **First Unit Assessed**
  - Fort Lewis, WA

POV Centralized Accident Investigation

- USASC has always done Aviation CAIs, added Ground in FY83, now adding POV
- Achieve >50% reduction of POV accidents by FY05, & sustain indefinitely
- Develop an assessment program that will identify high-risk groups, activities, units & environments to facilitate >50% reduction
- Conduct investigation of accident environment to provide real-time feedback mechanism for units & Army to adjust accident prevention efforts accordingly
- Capture Army "Best Practices" to facilitate success
- First Installation-Fort Lewis, WA



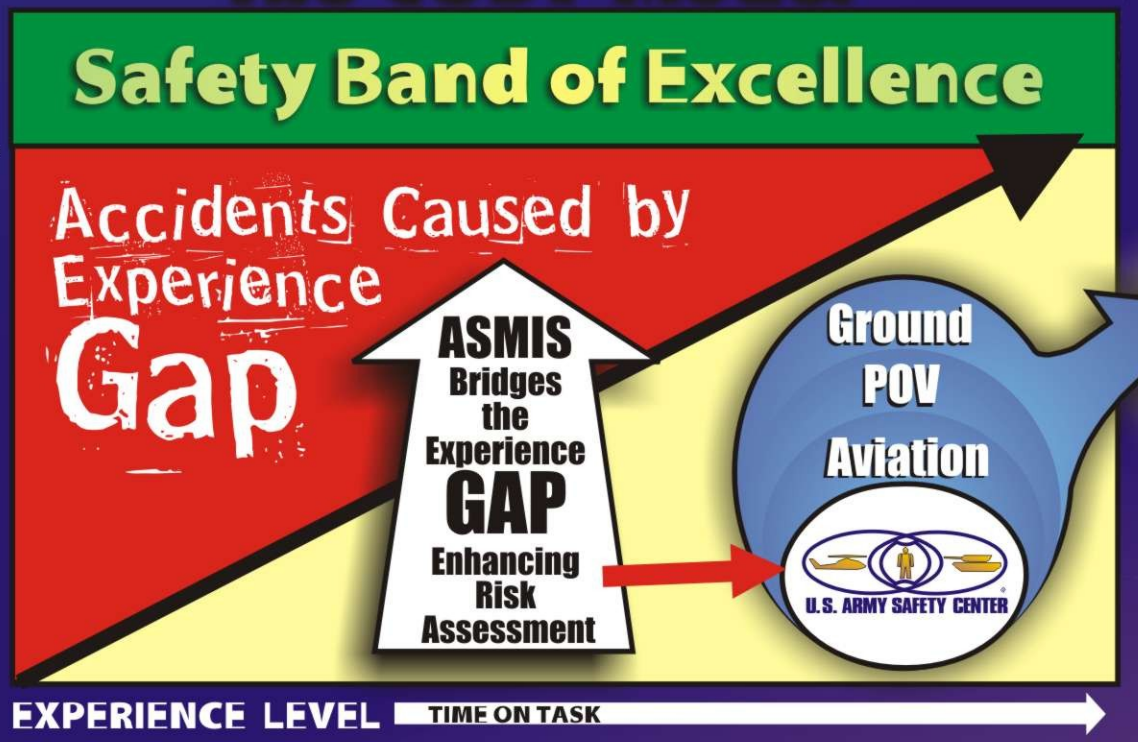
POC: J.T. Coleman, DSN 558-2919

Initiatives Coming Your Way

Develop & embed key software enablers into the AMPS & Unit-Level computer systems to further automate the Aviation Mission Planning Process & Risk Assessment in all environments

- Centralized Aviation Flight Records System (CAFRS)
- Army Safety Management Information System (ASMIS)
- Other Risk Reduction Systems

The CODY Model



Leaders' INVOLVEMENT SAVES lives

CG3-09

COLONEL CHRISTOPHER G. GALLAVAN

DIRECTOR, POLICY AND STRATEGIC PROGRAMS

US ARMY SAFETY CENTER

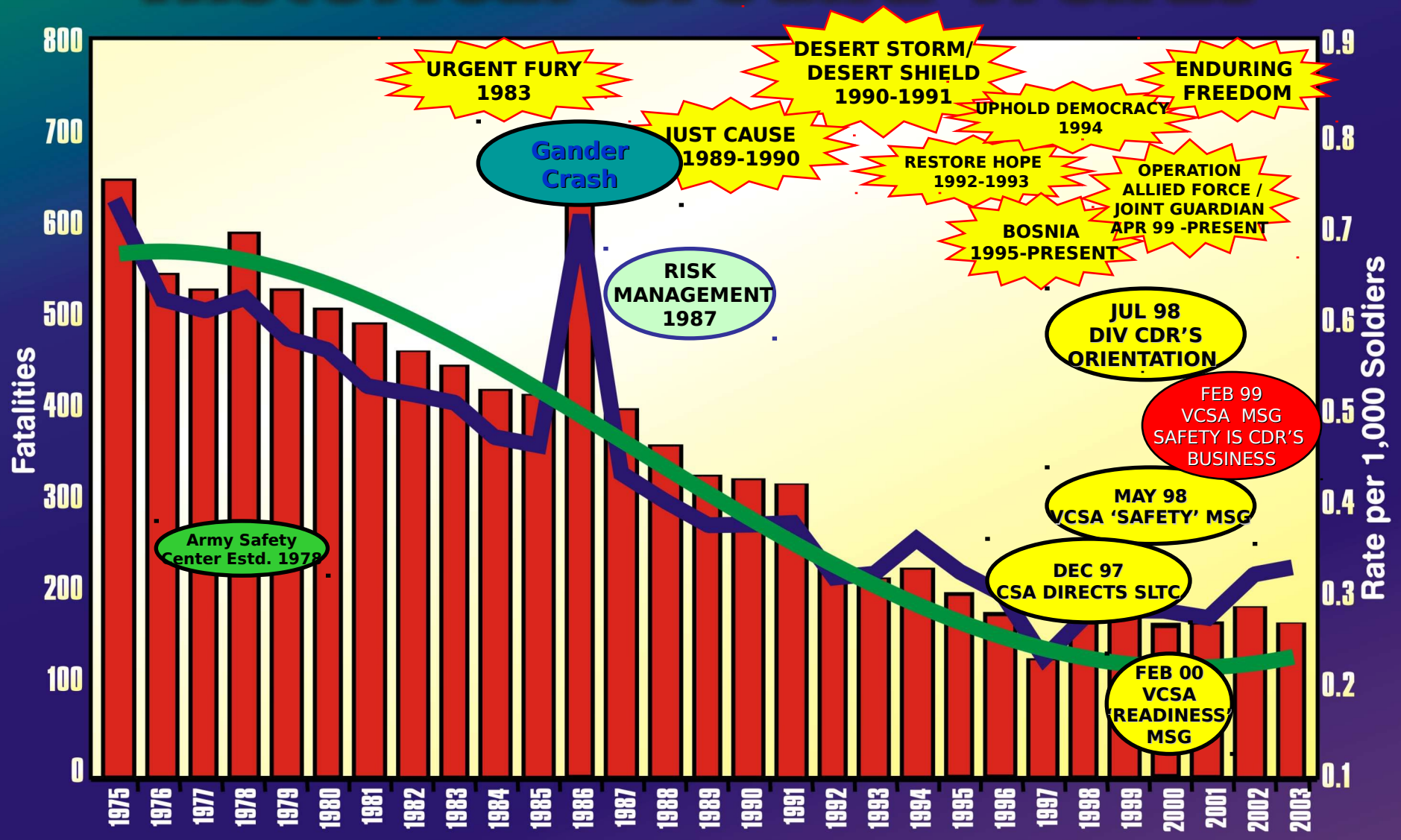
christopher.gallavan@us.army.mil

334-255-3770

http://safety.army.mil/

BACK-UPS

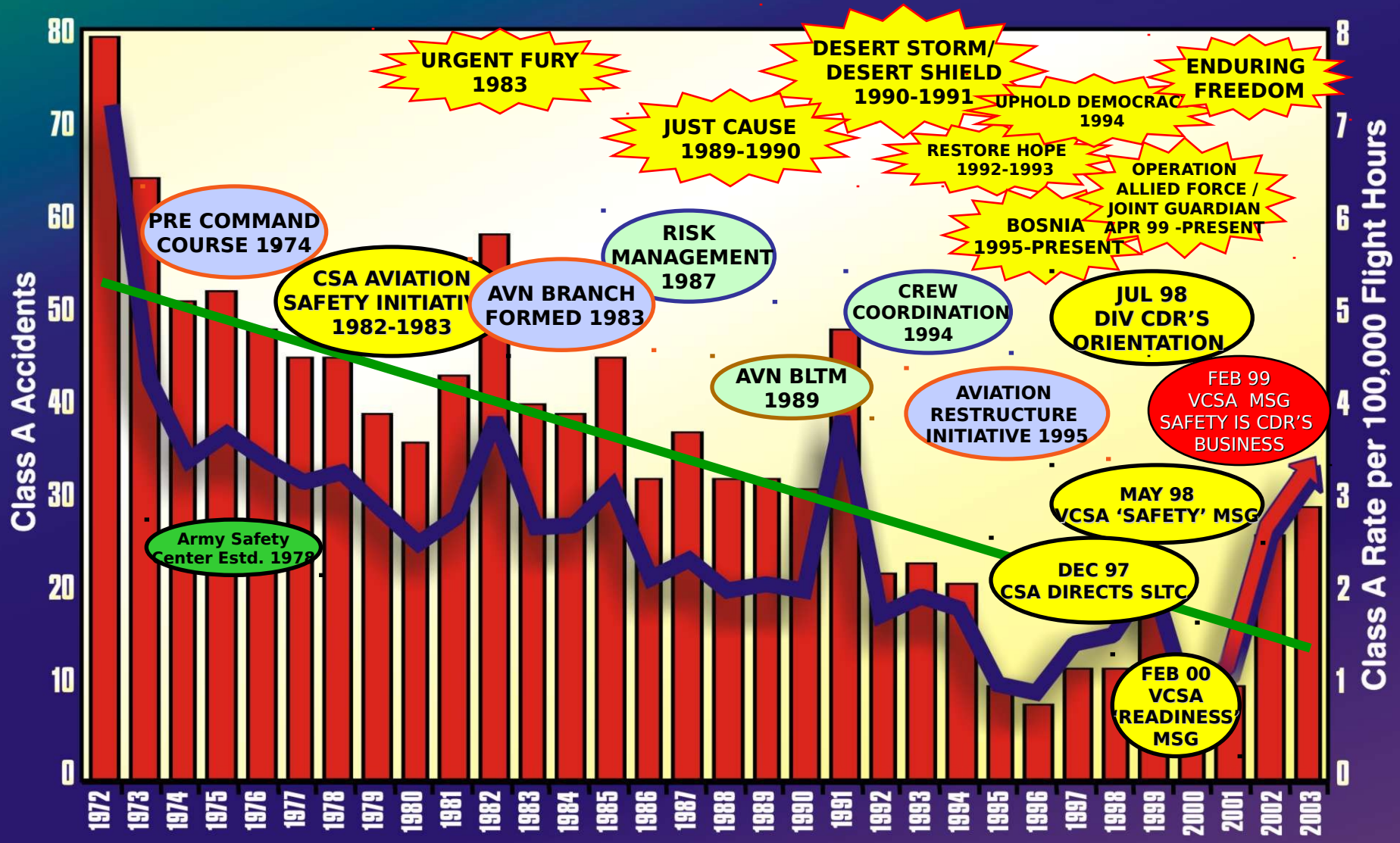
Historical Ground Trends



IPR3-475D

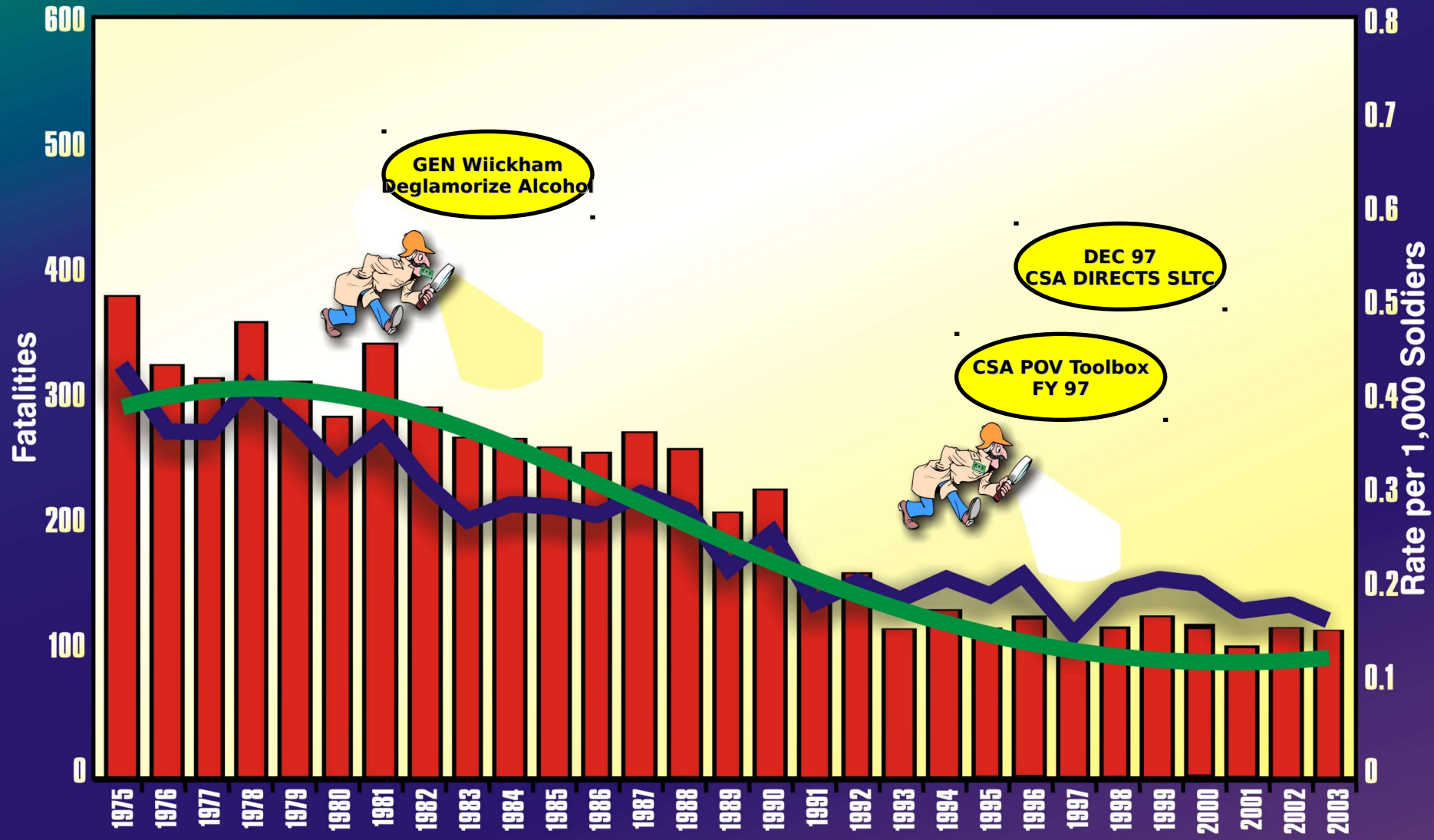
As of 22 Sep 03

Historical Aviation Trends



As of 11 Sep 03

Historical POV Trends



As of 22 Sep 03

While You Were Out...